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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,190	07/15/2003	David T. Jennings III	BRI/024	8691

7590 08/25/2004

Thomas J. Brindisi, Esq.  
Suite B  
20 28th Place  
Venice, CA 90291

EXAMINER

GREENE JR, DANIEL LAWSON

ART UNIT PAPER NUMBER

3641

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/620,190

**Applicant(s)**

JENNINGS, DAVID T.

**Examiner**

Daniel L. Greene Jr.

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-21 is/are pending in the application.  
4a) Of the above claim(s) 13-17 and 19-21 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-12 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Election/Restrictions***

1. Applicant's election with traverse of invention I, species A (claims 1-13) in the reply filed on 7/19/2004 is acknowledged.

The traversal is on the ground(s) that the restriction requirement incorrectly asserts that groups I, II, and III each fall under subclasses of class 102.

First the examiner would like to thank applicant for pointing out the supposed deficiencies in the classifying of the groups. However, review of 102/206 classification definitions reveals the following:

206 - Ignition or detonation circuit:

This subclass is indented under subclass 200. Subject matter comprising an electrical circuit, or components of an electrical circuit to supply electrical energy to an igniting device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11, for circuits for selectively firing units of mines in fields or groups.

16, for marine mine firing circuits.

19.2, for nonmarine mine firing circuits.

20+, for circuits for firing well explosives.

SEE OR SEARCH CLASS:

361, Electricity: Electrical Systems and Devices, subclasses 247+ for similar circuits.

Whether group II is properly classified in 102/202.5 or class 320, 361, etc.

The fact remains that the inventions are distinct for the reasons given (i.e., The process as claimed can be practiced by another materially different apparatus, such as the prior systems wherein the charging is intermittent or by the set forth prior art system of 6,584,907 (Boucher)) and the groups have acquired a separate status in the art as shown by their different classification.

Note that none of the independent claims recite munitions. Obviously, this is the intended application by applicant. MPEP § 806.05(e) requires one-way distinction either: the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. In this case, the process as claimed can be practiced by another materially different process, such as electronic detonators employing automatic charging of the firing capacitors upon connection to the system bus.

Mirroring the claim language between method and apparatus does not prevent restriction between the two groups.

For the reasons above the restriction between group I and II/III is Proper.

2. Applicant argues the restriction/election between groups II and III citing that the combination/subcombination is improper. At this time as such is directed to a non-elected invention the examiner will withdrawn such requirement.

3. Applicant argues that the species restriction/election between figures 1 and 2 is improper. Applicant states that it is unclear what the distinction of a branched versus an unbranched bus has to do with the present claims since none of the claims refer to this feature and all are generic to the embodiments of Figs. 1 and 2.

Applicant is referred to MPEP § 806.04(e). Claims are never species. Species are always specifically different embodiments. Restriction/election between the disclosed embodiments is proper.

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As set forth above the restriction/election requirement is deemed proper and is therefore made **FINAL**.

4. Claims 14-17, 19 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/19/2004.

5. Claims 13 and 21 are further withdrawn from further consideration by the examiner pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/19/2004.

Note that applicant identified claims 1-13 as reading on the elected invention. Claims 1-12 read on the elected invention. Claim 13 being drawn to the apparatus claims of groups II/III.

Applicant added new claim 21. Claim 21 would have been properly grouped with claims 13-19 and 20 and therefore restricted as set forth above.

#### ***Allowable Subject Matter***

6. Upon further review, the previously indicated allowability of claims 6 and 7 is withdrawn. The Office regrets any inconvenience this may cause to applicant.

#### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**7. Claims 1-8 and 11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent 4,674,047 to Tyler et al. hereafter Tyler.**

Tyler clearly discloses, a method of charging slave devices in an electronic system in a staggered fashion, comprising the following steps: a) establishing a system including a master device (11) and a bus (17A through 17N), b) connecting multiple slave devices (15A through 15N) to the bus, and c) selectively charging the slave devices with electrical energy supplied by the master device on the bus, wherein the charging of the slave devices is temporally staggered so that slave devices begin charging at different times, in figures 1-4, 9, and 10-10D, column 1 lines 55+, column 2 lines 20-29, and 60+, column 5 lines 22+, column 7 lines 12-18, column 16 lines 23-34, column 17 lines 1-16, 27-50 and lines 60+, column 20 lines 17-43, and claims 1, 5, 25, 28, 37, 38 and 42.

In regard to claim 2, Tyler discloses step c) further including the step of the master device issuing individually addressed charge commands to slave devices. (e.g., see column 28 claim 42.)

In regard to claim 3, Tyler discloses step c) further including the step of the master device issuing individually addressed charge commands to banks of slave devices. (e.g., see column 7 lines 12-18 and column 23 claim 5.)

In regard to claim 4, Tyler discloses the electronic system being an electronic blasting system, the master device being a blasting machine (firing console (11)), and the slave devices being electronic detonators.

In regard to claim 5, Tyler discloses step c) further including the step of the master device issuing a charge command followed by a clock sequence (e.g., column 16 lines 23-34.)

In regard to claim 6, Tyler discloses each slave device having scratch values and said clock sequence includes a clock value corresponding to said scratch value of each of said slave devices on the electronic system (e.g., column 18, lines 56-61.) Applicant's definition of "scratch value," from the instant application paragraphs 0038 and 0050, is a reprogrammable variable which can be used to define blasting hole identifications (hole IDs), which is synonymous with the programmable unit identification codes of Tyler.

In regard to claim 7, Tyler inherently discloses the scratch values of the slave devices being grouped into banks so that the slave devices are charged in banks (e.g., see column 7 lines 12-18.)

In regard to claim 8, Tyler inherently discloses the clock sequence having a temporal frequency and the time during which slave devices are selectively charged is at least partly a function of the temporal frequency (e.g., see column 17 lines 27-50 and column 20 lines 17-43.)

In regard to claim 11, Tyler inherently discloses the clock sequence having a temporal frequency that is chosen to ensure that each bank of slave devices is charged, at least until the attainment of the rail voltage, without any other bank of slave devices being simultaneous charged (e.g., see column 20 lines 17-43.)

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyler in view of US. Patent 3,752,081 to McKeown et al., hereafter McKeown.**

Tyler discloses applicants invention as discussed above, however Tyler does not appear to include a constant-current, rail-voltage limited charging process as claimed by the applicant. McKeown discloses a charging process utilizing constant-current in column 5, lines 25-40. At the time of the invention, one of ordinary skill in the art would have found it obvious to provide the master device of Tyler with the constant current charging module of McKeown to gain the advantages thereof (i.e., to minimize the charging time or to consistently charge a capacitor to 200 joules within 10 seconds and to 400 joules within 20 seconds), as such results are in no more than the use of conventionally known designs/techniques available within the art.

In regard to claim 10, Tyler discloses the charging of the slave devices is performed in banks.

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In regard to claim 12, Tyler discloses the electronic system being an electronic blasting system, the master device being a blasting machine and the slave devices being electronic detonators.

### ***Response to Arguments***

10. Applicant's arguments received 03/22/2004 with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel L. Greene Jr. whose telephone number

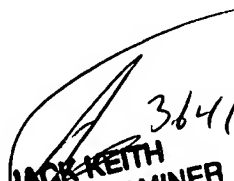
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is (703) 605-1210. The examiner can normally be reached on Mon-Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Carone can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DIG 8/18/2004

  
JACK KEITH  
PRIMARY EXAMINER